

REMARKS

The application has been reviewed in light of the Office Action mailed on August 7, 2007. Claims 22 and 28 have been amended without adding new matter. Reconsideration of the application is respectfully requested. Should the Examiner disagree that the foregoing amendments and the following remarks place the application in condition for allowance, the Examiner is respectfully requested to contact the undersigned Applicants' representative to schedule an interview at the Examiner's convenience.

Claims 22, 25, 28, 31 and 33 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Jones et al., U.S. Patent No. 6,555,858 ("Jones"). Claims 22-33 and 40-41 stand rejected under 35 U.S.C. § 103 as being unpatentable over Ning, U.S. Patent No. 6,709,874 ("Ning"), in view of Durlam et al, U.S. Patent No. 5,940,319 ("Durlam I"), or Durlam et al., 6,211,090 ("Durlam II"). Claims 23, 24, 26, 27, 29, 30, 32, 40 and 41 stand rejected under 35 U.S.C. § 103 as being unpatentable over Jones in view of Ning.

Applicants disagree with and traverse the rejections for at least the reasons discussed in the Amendment filed on February 17, 2006. To advance prosecution of the application, however, independent claims 22 and 28 have been amended to further distinguish over the references.

Claim 22 has been amended to recite "conductive lines formed over said barrier layer ..., said barrier layer and said conductive lines having upper surfaces, wherein said upper surfaces have roughened portions and protruding portions." Amended claim 22 further recites a "planarized conductive material layer formed over said roughened portions and protruding portions of said upper surfaces of said barrier layer and said conductive lines."

Support for this feature of the invention can be found, for example, in Figures 11 and 12, and associated text of the specification. As discussed in the specification, the structure of the invention recited in claim 22 comprises “unflat topography as shown by the roughened portions 62a of metal line 62 and the protruding portion 59a of barrier layer 59.” Paragraph [0043] of the published application. Moreover, the specification teaches that “roughened portions 62a and protruding portions 59a are conformally covered by the second conductor layer 63.” Paragraph [0044] of the published application. The invention is not limited to the disclosed embodiments.

The cited references, whether taken alone or in combination, fail to teach or suggest “conductive lines formed over said barrier layer ..., said barrier layer and said conductive lines having upper surfaces, wherein said upper surfaces have roughened portions and protruding portions,” and a “planarized conductive material layer formed over said roughened portions and protruding portions of said upper surfaces of said barrier layer and said conductive lines.” To the contrary, the references fail to discuss this feature of the claimed invention.

For at least the foregoing reasons, amended claim 22 is allowable over the cited references. Independent claim 28 has been similarly amended, and is also in condition for allowance. Dependent claims 23-27, 29-33, 40 and 41 are allowable together with their base claims, and also on their own merits, as discussed in the Amendment filed on February 17, 2006, for example.

Claims 22-33, 40 and 41 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting over claims 43-67 of copending U.S. Patent Application No. 10/196,933. Applicants will address the rejection when it is no longer provisional.

In view of the above amendments and remarks, Applicants believe the pending application is in condition for allowance. Should the Examiner disagree, the Examiner is requested to contact the Applicants' undersigned representatives to schedule an interview at the Examiner's convenience.

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Respectfully submitted,

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